

## CLAIMS

1. A wavelength multi/demultiplexer having a dielectric multilayer filter at an intersection portion where two optical waveguides intersect each other and separating incident light to the dielectric multilayer filter to transmitted light and reflected light,

wherein the distance  $X$  from the multilayer surface on the light-incident side of the dielectric multilayer to the central intersection point of the two intersecting optical waveguides satisfies  $0 \leq X \leq d/2$  (where " $d$ " represents the thickness of the dielectric multilayer).

2. The wavelength multi/demultiplexer according to Claim 1, wherein the width of the two intersecting optical waveguides is enlarged toward the intersection portion.

3. The wavelength multi/demultiplexer according to Claim 2, wherein the enlarged width of the optical waveguides is constant in the vicinity of the intersection portion.

4. The wavelength multi/demultiplexer according to any one of Claims 1 to 3, wherein the refractive index difference of the optical waveguides is set at 0.3% to 0.45%.

5. The wavelength multi/demultiplexer according to any one of Claims 1 to 3, wherein the distance  $X$  satisfies  $d/10$

$$\leq X \leq 2d/5.$$

6. The wavelength multi/demultiplexer according to any one of Claims 1 to 3, wherein the thickness of the dielectric  
5 multilayer is 20 $\mu$ m or more.

7. The wavelength multi/demultiplexer according to any one of Claims 1 to 3, wherein the intersection angle between said two intersecting optical waveguides is 8 to 16 degrees.